

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1-29 (Canceled)

Claim 30 (New): A non-aqueous electrolytic solution comprising at least two organic compounds dissolved in a solvent comprising a cyclic carbonate and a chain carbonate, in an amount of 0.1 to 4 weight % for each compound,

in which both of said two organic compounds have a reduction potential higher than reduction potentials of the cyclic and chain carbonates,

in which one of the organic compounds has a reduction potential equal to a reduction potential of another organic compound or has a reduction potential lower or higher than a reduction potential of another organic compound by a potential of less than 0.4 V, and

in which the former organic compound is vinylene carbonate and the latter organic compound is selected from the group consisting of a sultone compound, a sulfonate compound, phenylacetylene, and methyl propargyl carbonate.

Claim 31 (New): The non-aqueous electrolytic solution of claim 30, in which the latter organic compound is 1,3-propanesultone or 1,4-butanessultone.

Claim 32 (New): The non-aqueous electrolytic solution of claim 30, in which the cyclic carbonate is selected from the group consisting of ethylene carbonate, propylene carbonate, and butylene carbonate, and the chain carbonate is selected from the group consisting of diethyl carbonate, diethyl carbonate, methyl ethyl carbonate, and methyl isopropyl carbonate.

Claim 33 (New): A non-aqueous electrolytic solution comprising at least two organic compounds dissolved in a solvent comprising a cyclic carbonate and a chain carbonate, in an amount of 0.1 to 4 weight % for each compound,

in which both of said two organic compounds have a reduction potential higher than reduction potentials of the cyclic and chain carbonates,

in which one of the organic compounds has a reduction potential equal to a reduction potential of another organic compound or has a reduction potential lower or higher than a reduction potential of another organic compound by a potential of less than 0.4 V, and

in which the former organic compound is 1,3-propanesultone or 1,4-butanedisultone and the latter organic compound is selected from the group consisting of 3,4-butanediol dimethane sulfonate, ethylene glycol dimethane sulfonate, methyl propargyl carbonate, and phenylacetylene.

Claim 34 (New): The non-aqueous electrolytic solution of claim 33, in which the former organic compound is 1,3-propanedisultone.

Claim 35 (New): The non-aqueous electrolytic solution of claim 33, in which the cyclic carbonate is selected from the group consisting of ethylene carbonate, propylene carbonate, and butylene carbonate, and the chain carbonate is selected from the group consisting of dimethyl carbonate, diethyl carbonate, methyl ethyl carbonate, and methyl isopropyl carbonate.

Claim 36 (New): A. non-aqueous electrolytic solution comprising at least two organic compounds dissolved in a solvent comprising a cyclic carbonate and a chain carbonate, and an amount of 0.1 to 4 weight % for each compound,

in which both of said two organic compounds have a reduction potential higher than reduction potentials of the cyclic and chain carbonates,

in which one of the organic compounds has a reduction potential equal to a reduction potential of another organic compound or has a reduction potential lower or higher than a reduction potential of another organic compound by a potential of less than 0.4 V, and

in which the former organic compound is divinylsulfone and the latter organic compound is benzaldoxime methylcarbonate.

Claim 37 (New): The non-aqueous electrolytic solution of claim 36, in which the cyclic carbonate is selected from the group consisting of ethylene carbonate, propylene carbonate, and butylene carbonate, and the chain carbonate is selected from the group consisting of diethyl carbonate, diethyl carbonate, methyl ethyl carbonate, and methyl isopropyl carbonate.

Claim 38 (New): A non-aqueous lithium secondary battery which comprises a positive electrode comprising lithium complex oxide, a negative electrode comprising graphite, a non-aqueous electrolytic solution containing an electrolyte salt in a non-aqueous solvent, and a separator, in which the non-aqueous electrolytic solution comprises at least two organic compounds dissolved in a solvent comprising a cyclic carbonate and a chain carbonate, in an amount of 0.1 to 4 weight % for each compound,

in which both of said two organic compounds have a reduction potential higher than reduction potentials of the cyclic and chain carbonates,

in which one of the organic compounds has a reduction potential equal to a reduction potential of another organic compound or has a reduction potential lower or higher

than a reduction potential of another organic compound by a potential of less than 0.4 V, and

in which the former organic compound is vinylene carbonate and the latter organic compound is selected from the group consisting of a sultone compound, a sulfonate compound, phenylacetylene, and methyl propargyl carbonate.

Claim 39 (New): The non-aqueous lithium secondary battery of claim 38, in which the latter organic compound is 1,3-propanesultone or 1,4-butanessultone.

Claim 40 (New): A non-aqueous lithium secondary battery which comprises a positive electrode comprising lithium complex oxide, a negative electrode comprising graphite, a non-aqueous electrolytic solution containing an electrolyte salt in a non-aqueous solvent, and a separator, in which the non-aqueous electrolytic solution comprises at least two organic compounds dissolved in a solvent comprising a cyclic carbonate and a chain carbonate, in an amount of 0.1 to 4 weight % for each compound,

in which both of said two organic compounds have a reduction potential higher than reduction potentials of the cyclic and chain carbonates,

in which one of the organic compounds has a reduction potential equal to a reduction potential of another organic compound or has a reduction potential lower or higher than a reduction potential of another organic compound by a potential of less than 0.4 V, and

in which the former organic compound is 1,3-propanesultone or 1,4-butanessultone and the latter organic compound is selected from the group consisting of 1,4-butanediol dimethane sulfonate, ethylene glycol dimethane sulfonate, methyl propargyl carbonate, and phenylacetylene.

Claim 41 (New): The non-aqueous lithium secondary battery of claim 40,

in which the former organic compound is 1,3-propanesultone.

Claim 42 (New): A non-aqueous lithium secondary battery which comprises a positive electrode comprising lithium complex oxide, a negative electrode comprising graphite, a non-aqueous electrolytic solution containing an electrolyte salt in a non-aqueous solvent, and a separator, in which the non-aqueous electrolytic solution comprises at least two organic compounds dissolved in a solvent comprising a cyclic carbonate and a chain carbonate, in an amount of 0.1 to 4 weight % for each compound,

in which both of said two organic compounds have a reduction potential higher than reduction potentials of the cyclic and chain carbonates,

in which one of the organic compounds has a reduction potential equal to a reduction potential of another organic compound or has a reduction potential lower or higher than a reduction potential of another organic compound by a potential of less than 0.4 V, and

in which the former organic compound is divinylsulfone and the latter organic compound is benzaldoxime methylcarbonate.